

TOP SECRET**PRIORITY****OUT62589**

TOP SECRET 132349Z CITE [REDACTED]

1967 JUL 14 00 18Z

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SUBJ: MISSION 1042 PHOTOGRAPHIC EVALUATION INTERIM REPORT (PEIR)

REF A. [REDACTED]

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B. [REDACTED]

1. NUMERICAL SUMMARY

MSN NO AND DATES: 1042-1, 16-22 JUNE 1967
 1042-2, 22 JUNE - 1 JULY 1967

LAUNCH DATE AND TIME: 16 JUNE 1967/2135Z

VEHICLE NUMBER: 1633

CAMERA SYSTEM: J-37

PAN CAMERA NO: FORWARD-LOOKING 204

AFT-LOOKING 205

MSN 1042-1 S/I NO: D97/120/117

MSN 1042-2 S/I NO: D98/121/118

RECOVERY REVS: MSN 1042-1, 97

MSN 1042-2, 240

2. CAMERA SETTINGS

FWD-LOOKING 0.200 INCH SLIT, WRATTEN 23A

AFT-LOOKING 0.150 INCH SLIT, WRATTEN 21

3. PERFORMANCE SUMMARY

MISSION 1042 IS CONSIDERED TO BE ONE OF THE BETTER FLIGHTS.

FEWER THAN USUAL ANOMLIES WERE EXPERIENCED AND GOOD IMAGE

QUALITY WAS OBTAINED. UNUSUALLY CRISP APPEARANCE OF THE PHOTOGRAPHY

IN CLOUD FREE AREAS RESULTED FROM GENERALLY LOW HAZE CONDITIONS.

THE PHOTO INTERPRETEABILITY OF MISSION 1042 IS JUDGED TO BE

GENERALLY GOOD. THE INTERPRETERS MADE PARTICULAR MENTION OF THE

FAVORABLE ATMOSPHERIC CONDITIONS PREVAILING OVER MANY OF THE TARGET

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AREAS.

4. ANOMALIES

A. EMULSION SCRATCHES ON THE SLAVE CAMERA, BOTH PARTS WITHIN THE FORMAT AREA. THE MOST PREDOMINANT ONE BEING 1 INCH, 1 1/8 INCHES, AND 1 5/8 INCHES FROM TITLED EDGE. THESE MARKS ARE INTERMITTENT THROUGHOUT THE MISSION AND ON OCCASIONS ARE PRESENT IN THE HORIZON FORMAT.

CAUSE: THE SCRATCHES REPORTED ABOVE WERE INTEGRATED WITH EDGE TO EDGE EMULSION SCRATCHING AND ABRASION ON PASS D109. THIS (LIGHT ABRASION) CONDITION WAS VISIBLE ON THE ORIG NEG ONLY. AT PRESENT THIS ANOMOLY CAN NOT BE ATTRIBUTED TO ANY PHASE OF THE OPERATION.

ACTION: RECOMMEND REVIEW OF ADDITIONAL OPIG NEG MATERIAL AT [REDACTED]

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B. A SMALL AREA OF OUT-OF-FOCUS IMAGERY ON THE MASTER CAMERA IS PRESENT INTERMITTENTLY THRU THE "A" MISSION ONLY. IT IS LOCATED APPROXIMATELY ONE AND ONE-HALF INCHES FROM THE SUPPLY END OF THE FRAME AND CONTINUES FOR UP TO TWO INCHES ALONG THE BINARY EDGE EXTENDING UP TO ONE INCH INTO ACTIVE FORMAT.

CAUSE: THIS CONDITION CEASED TO EXIST AFTER THE CUT AND WARP FUNCTION. DURING THE "A" MISSION THE SOFT IMAGERY DID NOT APPEAR ON EVERY FRAME NOR WAS THERE A CONSISTENT PATTERN ESTABLISHED. IT APPEARS THAT THIS ANOMALY WAS CAUSED BY TENSION/TRACKING VARIATIONS. AT THE CUT AND WARP THE TAKE-UP CONDITIONS CHANGE FROM FULL TO EMPTY SPOOLS PROBABLY CAUSING A CHANGE IN TRACKING WHICH RECTIFIED THE PROBLEM.

ACTION: A CRITIQUE IS RECOMMENDED TO DETERMINE THE ADEQUACY OF CURRENT PROCEDURES AND TECHNIQUES USED TO ESTABLISH CAMERA TRACKING, [REDACTED] LIFT MEASUREMENT, AND FILM TENSION. (MONITORS: [REDACTED])

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C. ON THE MASTER CAMERA PART II THE PORT LOOKING HORIZON CAMERA IMAGERY BECOMES SLIGHTLY UNDEREXPOSED BEGINNING AT PASS D92 AND THE EXPOSURE GRADUALLY DECREASES THROUGHOUT THE REMAINDER OF THE MISSION. AT PASS D189 THE EXPOSURE WAS DEGRADED SUFFICIENTLY TO CONSIDER THE IMAGERY DIFFICULT TO USE.

CAUSE: THIS CONDITION COULD BE THE RESULT OF A LOOSE F-STOP MECHANISM WHEREBY THE IRIS GRADUALLY CLOSED.

ACTION: INSURE THAT ALL F-STOP MECHANISMS ARE PROPERLY EPOXIED.

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D. ON THE SLAVE CAMERA BOTH PARTS, A SMALL MINUS DENSITY SPOT LOCATED 3.75 INCHES FROM THE SUPPLY END OF EACH FRAME ON THE BINARY FORMAT EDGE IS PRESENT THROUGHOUT THE MISSION.

CAUSE: A SMALL PARTICLE OF DIRT OR EMULSION WAS ON THE RAIL EDGE CASTING A MINUTE SHADOW AT THE FORMAT EDGE.

ACTION: NO ACTION REQUIRED.

E. THE INDEX CAMERA FILM METERING IS SLIGHTLY NONUNIFORM ON THE FIRST 60 FRAMES.

CAUSE: THE INDEX CAMERAS WERE ORIGINALLY DESIGNED TO PROVIDE FOR FILM SHRINKAGE UNDER EXTENDED SHUT DOWN CONDITIONS. THIS DEVICE IS A PIN AND SLOT IN THE SLIP CLUTCH MECHANISM WHICH ALLOWS THE FILM TO SLIP THE CLUTCH SHOULD SHRINKAGE OCCUR. DEPENDING ON CLUTCH AND TAKE-UP TENSIONS THE NONUNIFORM METERING COULD BE CONSIDERED A NORMAL FUNCTION DURING OPERATION.

ACTION: NONE REQUIRED.

F. ONE UNEXPOSED FRAME, ON THE STELLAR AND INDEX CAMERAS (A MISSION), WAS REPORTED.

CAUSE: CORRELATION OF THE PAN EXPOSURES TO THE SI COMMANDS REVEALED THAT THE S/I DID NOT RECEIVE THE SHUTTER WIND COMMAND (DURING THE SWITCH-OVER SEQUENCE AS DESCRIBED IN EARLIER PEIP)

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THEREBY CAUSING ONE FRAME TO BE UNEXPOSED.

ACTION: SINCE THIS IS A CHARACTERISTIC OF THE SYSTEM, NO ACTION IS DEEMED NECESSARY.

G. ON THE LAST 46 FRAMES OF THE INDEX CAMERA FILM FROM PART I, THERE ARE TWO HEAVY EMULSION SCRATCHES LOCATED 1 1/4 AND 5/16 INCHES FROM THE RESEAU NUMBER EDGE. THE SCRATCHES ARE PLUS DENSITY AND ARE PARALLEL TO THE FILM EDGE.

CAUSE: UNKNOWN

ACTION: NONE

H. THREE OUT-OF-FOUR FIDUCIALS PRESENT IN MISSION 1042-1 STELLAR PHOTOGRAPHY WERE UNREADABLE DUE TO EXCESSIVE FIDUCIAL DENSITY.

CAUSE: STELLAR FIDUCIALS, ALTHOUGH READABLE PRIOR TO LAUNCH, WERE marginally HIGH IN DENSITY.

ACTION: ADJUST AS NECESSARY THE STELLAR FIDUCIAL LAMP POTENTIOMETERS ON THE REMAINING STELLAR-INDEX CAMERAS TO PRODUCE FIDUCIAL IMAGERY THAT IS ACCEPTABLE AT A LOWER DENSITY LEVEL.

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END OF MESSAGE